

PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 402895WO	FOR FURTHER ACTION See Form PCT/PEA/416	
International application No. PCT/EP2004/009299	International filing date (day/month/year) 18.08.2004	Priority date (day/month/year) 28.08.2003
International Patent Classification (IPC) or national classification and IPC INV. H04M3/22 H04B3/46 H04B3/23 H04M9/08		
Applicant KONINKLIJKE KPN N.V.		
<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 6 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input type="checkbox"/> sent to the applicant and to the International Bureau) a total of sheets, as follows:</p> <p><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</p> <p><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</p> <p>b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in electronic form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>		
<p>4. This report contains indications relating to the following items:</p> <p><input checked="" type="checkbox"/> Box No. I Basis of the report</p> <p><input type="checkbox"/> Box No. II Priority</p> <p><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p><input type="checkbox"/> Box No. IV Lack of unity of invention</p> <p><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p><input type="checkbox"/> Box No. VI Certain documents cited</p> <p><input type="checkbox"/> Box No. VII Certain defects in the international application</p> <p><input checked="" type="checkbox"/> Box No. VIII Certain observations on the international application</p>		
Date of submission of the demand 25.03.2005	Date of completion of this report 12.05.2006	
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Gavin Alarcon, O Telephone No. +49 89 2399-	



**INTERNATIONAL PRELIMINARY REPORT
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International application No.
PCT/EP2004/009299

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:
- ☐ international search (under Rules 12.3 and 23.1(b))
 - ☐ publication of the international application (under Rule 12.4)
 - ☐ international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

Description, Pages

1-14 as originally filed

Claims, Numbers

1-14 as originally filed

Drawings, Sheets

1/5-5/5 as originally filed

☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

- ☐ the description, pages
- ☐ the claims, Nos.
- ☐ the drawings, sheets/figs
- ☐ the sequence listing (*specify*):
- ☐ any table(s) related to sequence listing (*specify*):

* If item 4 applies, some or all of these sheets may be marked "superseded."

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-14
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-14
Industrial applicability (IA)	Yes: Claims	1-14
	No: Claims	

2. Citations and explanations (Rule 70.7):

see separate sheet

Box No. VIII Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

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Re Item V

Reference is made to the following documents:

D1: EP-A-1 206 104 (KONINKL KPN NV) 15 May 2002 (2002-05-15)

D2: US 2003/053618 A1 (GRITTON CHARLES W K ET AL) 20 March 2003

INDEPENDENT CLAIM 1

1. The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

1.1 The document D1 is regarded as being the closest prior art to the subject-matter of claim 1, and discloses (the references in parentheses applying to this document):

a method for measuring a talking quality of a communication link in a communications network. The method comprises the following steps (*see claim 1, column 10, lines 39-54*):

a) a main step of subjecting a degraded speech signal $s'(t)$ with respect to a reference speech signal $s(t)$ to an objective measurement technique for measuring a perceptual quality of speech signals; and

b) producing a quality signal q which represents an estimated value concerning the talking quality degradation, the degraded speech signal comprising a returned signal $r(t)$.

In the method of D1, the objective measurement technique comprises (*claim 1, column 10, line 55 to column 11, line 1*) a step of modelling masking effects in consequence of noise present in the returned signal.

Additionally, the modelling step comprises the determination of a threshold noise level (*claim 3, column 11, lines 45-47, "producing an estimated value N_e of the loudness of the noise present in the returned signal", see also paragraph 25, "this minimum N_e can then be used to define a threshold value $T(N_e)$ "*) by determining a minimum value of the degraded speech signal $s'(t)$ (*paragraphs 25 and 26,*

"minimum loudness of the degraded signal", "this minimum may be put equal to a minimum loudness density N_e ", " N_e being equal to the minimum value of the loudness found in the loudness degraded signal").

- 1.2 The method defined in claim 1 differs from the one disclosed in D1 in that the determined minimum value of the degraded speech signal is a local one.
- 1.3 According to this difference, the problem to be solved by claim 1 is how to prevent an erroneous determination of the noise level.
- 1.4 However, D1 discloses that (paragraph 25, lines 18-23) the key idea of the method is that the minimum value of the degraded speech signal is representative of the noise during silent intervals (after the echo delay time) in the talker's speech.

Actually, the fact of estimating the noise when speech is absent in order to have an accurate estimation is a common practice in noise reduction systems, see for example document D2, paragraphs 29, 38-39.

- 1.5 Therefore, the person skilled in the art and trying to solve the aforementioned problem would use the teachings of D1 to determine the noise level only during silent intervals, which are indeed local portions of the entire speech signal. The subject-matter of claim 1 is therefore not inventive (Article 33(3) PCT).

INDEPENDENT CLAIM 8

2. The same objection and reasoning applies to claim 8, since D1 also discloses the means to perform the method of D1 (see columns 12-13, claims 10 and 12). The subject-matter of claim 8 is therefore not inventive (Article 33(3) PCT).

DEPENDENT CLAIMS 2-7 and 9-14

3. Dependent claims 2-7 and 9-14 do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step. The reasons therefor are as follows:

The features of claims 2 and 9 have been previously discussed ("silent intervals").

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The features of claims 3-4 and 10-11 are just implementation details about the signals and do not add anything inventive to the method of claim 1. The features of claims 5-6 and 12-13 relate to alternative ways of estimating noise which are well-known in the prior art. Finally, the subject-matter of claims 7 and 14 is already disclosed in D1 (see columns 11-12, claims 2-5 and columns 13-14, claims 11-12).

Re Item VIII

4. The application does not meet the requirements of Article 6 PCT, because claims 1, 4, 6, 8, 11 and 13 are not clear. The reasons therefor are as follows:

In claims 1 and 8, it is not clear in which sense or context the relative term "local" has to be interpreted. It is also not clear whether the "local minimum value" refers to the loudness of the degraded speech signal.

The wording of claims 4 and 11 using the expression "more preferably" renders the claims unclear. It is not clear whether the term "predefined value range" in claims 6 and 13 refers to time or to loudness.

Finally, the statement "which is incorporated herein by reference" in the description, page 1, lines 13-15 is also unclear.

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